NOTES: UNLESS OTHERWISE SPECIFIED

1. APPLY BLUE LOCTITE 242 TO ALL HARDWARE UNLESS OTHERWISE NOTED.

[2] BALL JOINT ASSEMBLY, SH. 2: DO NOT APPLY LOCTITE UNTIL "SEATING-IN" HAS BEEN PERFORMED AND BALL JOINT HAS BEEN CLEANED PER "SEATING-IN" INSTRUCTIONS BELOW.

[3.] MATL: WHITE LITHIUM GREASE (W.L.G.) MFR: STA-LUBE; MFR P/N: SL3151
BLACK MOLY-DISULFIDE GREASE (MZG10000002)

[4] **TORQUE SCREWS: ITEMS 32, 34 & 48**, TO 7 +/- 1 FOOT POUNDS; **ITEM 40** TO 3.8 FT-LBS (45 IN-LBS); **ITEM 36 & 63** TO 23 FT-LBS. APPLY ORANGE TORQUE SEALER (MZG10000006) AFTER COMPLETING TORQUE REQUIREMENTS.

[5] **CARRIAGE BEARING (ITEM 49, SH 5)- LUBRICATION PROCEDURE:**
LUBRICATE CARRIAGE BEARING WITH W.L.G.

A. ONE GREASE FITTING AND ONE PLASTIC BALL BEARING RACE COVER ARE PROVIDED WITH EACH CARRIAGE BEARING. KEEP THE RACE COVER INSTALLED ON BEARING DURING THIS PROCEDURE.

B. REPLACE RUBBER PLUG (DO NOT DISCARD PLUG) AT EITHER END OF THE CARRIAGE WITH THE FITTING IN THE LOCATIONS NOTED. HYDRAULICALLY PACK WITH GREASE UNTIL GREASE IS GENEROUSLY VISIBLE ON BOTH SIDES OF THE "BEARING COVER" NEAREST THE END BEING GREASED. REPLACE FITTING WITH PLUG AND REPEAT THE PROCEDURE FOR THE OPPOSITE END OF THE CARRIAGE. REPLACE FITTING WITH RUBBER PLUG.

C. BEARING "BREAK-IN"- **CAUTION:** THIS SHOULD BE DONE ON/OVER A SURFACE WHERE SMALL BEARINGS CONTAINED IN CARRIAGE WILL NOT BE LOST IF THEY ARE DISLODGED FROM THE CARRIAGE.

a. REMOVE PLASTIC RACE COVER.
b. USING CARE, MANUALLY SLIDE THE BALL BEARINGS WITHIN EACH RACE TO EVENLY SPREAD THE GREASE. IF A BALL BEARING BECOMES DISLODGED, LOCATE THE RACE THAT IS MISSING THE BEARING AND LIGHTLY PRESS (FINGER PRESSURE) THE BEARING BACK INTO THE RACEWAY.
c. AFTER THE GREASE IS EVENLY SPREAD THROUGHOUT EACH RACEWAY, REINSERT THE BEARING RACE COVER BACK ONTO THE BEARING, THEN CAREFULLY GUIDE THE BEARING CARRIAGE ONTO A RAIL, ITEM 50. ALLOW THE RAIL TO PUSH THE RACE COVER OUT OF THE BEARING. **CAUTION:** WATCH FOR DISLODGED BALL BEARINGS. IF FOUND REINSTALL BALL BEARINGS AS NOTED ABOVE.
d. SLIDE THE BEARING THE APPROX. DISTANCE OF THE RAIL 25X MINIMUM TO FULLY "BREAK-IN" THE BEARING AND GREASE.

[6] INSTALL BEARING CARRIAGE, ITEM 49, ONTO RAIL, ITEM 50, PRIOR TO ASSEMBLING TRACTION UNIT ASSEMBLY, ITEM 24, WITH MOUNTING SCREWS, ITEM 48.

[7] LOCATE LABELS APPROX. WHERE SHOWN. CLEAN SURFACES THOROUGHLY WITH DENATURED ALCOHOL PRIOR TO LABEL APPLICATION.

[8] ALIGN LABELS, ITEM 60, WITH END OF RAIL, ITEM 50, AS SHOWN.

[9] **SPAR LOCK BRAKE HANDLE ASSEMBLY- ADJUSTMENT PROCEDURE:**
THE FOLLOWING APPLIES WHEN THE ASSEMBLY IS VIEWED AS SHOWN IN THE "END VIEW", SH. 1. THE SPAR LOCK HANDLE SHOULD BE POSITIONED AT APPROXIMATELY 2 O'CLOCK WHEN THE SPAR IS FULLY LOCKED. WHEN UNLOCKED THERE MAY STILL BE SOME DRAG ON THE BALL JOINT, THIS IS ACCEPTABLE.

A. SEE SHEET 3, GRIP HANDLE KNOB, ITEM 56, LOOSEN NUT, ITEM 41, AND ADJUST HANDLE AS REQUIRED. TIGHTEN NUT. PERIODIC READJUSTMENTS MAY BE REQUIRED.

[10] **BALL JOINT ASSEMBLY- "SEATING IN" & CLEANING PROCEDURE:**

"SEATING-IN" THE NEW BRAKE CUP, ITEM 6:
CHECK THE SPAR LOCK HANDLE ADJUSTMENT PRIOR TO "SEATING IN" AND ADJUST AS NEEDED PER NOTE ABOVE.

CAUTION: LOCK THE TRACTION BRAKE, DETAIL A. BE SURE TO HOLD THE SPAR BY THE LOOP LIFTING HANDLE OR THE BOTTOM OF THE SPAR WHEN FIRST MOVING THE SPAR. DO NOT LIFT BY THE TRACTION DEVICE. THE TRACTION ASSY (6875-370) NEED NOT BE ON THE ASSY WHILE SEATING THE BRAKE. THE SPAR IS SLIGHTLY LIGHTER & EASIER TO HANDLE WITHOUT IT.

A. REMOVE THE GUIDE PIN 6850-263 BEFORE SEATING IN TO AVOID GALLING AND OR EXCESS WEAR..

B. TURN LOCK HANDLE CLOCKWISE SO THAT BRAKE "JUST" BEGINS TO ACT ON THE JOINT. THERE SHOULD BE A NOTICEABLE AMOUNT OF RESISTANCE TO MOVEMENT BUT THE SPAR SHOULD BE ABLE TO BE MOVED.

C. FORCE SPAR TO MOVE AROUND (UP, DOWN, LEFT RIGHT, CIRCLES) THRU ITS ENTIRE RANGE OF MOTION FOR APPROXIMATELY 2 MINUTES. RE-TIGHTEN THE BRAKE HANDLE IF THE RESISTANCE TO MOVEMENT GOES AWAY DURING THIS "BREAK IN" PERIOD. THERE WILL PROBABLY BE LOUD SQUEALING OR NOISE FROM THE BALL JOINT DURING THIS EXERCISE.

D. WHEN YOU FEEL UNIFORM RESISTANCE OR NOISE LEVEL THRU THE ENTIRE RANGE OF MOTION THIS INDICATES THE BRAKE CUP HAS BEEN PROPERLY "SEATED IN".

BALL JOINT ASSEMBLY CLEANING:
WHEN THE BRAKE CUP HAS BEEN PROPERLY SEATED REMOVE THE SPAR FROM THE TEST STAND OR TABLE AND PLACE ON A SECURE WORK SURFACE TO CLEAN OUT THE BRASS CHIPS FROM THE BALL JOINT.

(P) E. DELETED THIS NOTE.

F. WIPE AWAY ANY BRASS SHAVINGS FROM THE BRAKE CUP, BALL, AND BOX WITH A CLEAN RAG. BLOW OUT WITH AIR ANY AREAS, WHICH CAN NOT BE REACHED WITH A RAG, TO RID JOINT OF BRASS SHAVINGS AND ANY LINT OR RAG RESIDUE. (USE CAUTION WHEN BLOWING AWAY BRASS RESIDUE, KEEP IT AWAY FROM ANY TABLE CONSTRUCTION AND OUT OF ANY GREASED AREAS IN THE BALL JOINT.

REASSEMBLE BALL JOINT AFTER RE-APPLYING WHITE LITHIUM GREASE TO AREAS INDICATED. SEE SHEET 2.

ATTACH SPAR TO TABLE OR TEST FIXTURE. ROTATE THE LOCK HANDLE TO KEEP THE BALL JOINT FROM MOVING. ATTACH APPROX. 75 LB OF WEIGHT TO SPAR AT OR NEAR THE LOOP HANDLE AT THE OUTBOARD END OF THE SPAR. THE SPAR SHALL HOLD THE 75 LB WEIGHT FOR 1 MIN WITHOUT DRIFTING. IF THE SPAR DRIFTS AND THIS DRIFTING CANNOT BE PREVENTED BY ADDITIONAL TIGHTENING OF THE LOCK HANDLE, RE-DO THE BREAK IN PROCEDURES AND RETEST. CONTACT ENGINEERING DEPARTMENT FOR ADDITIONAL ASSISTANCE IF THE SECOND BREAK IN PERIOD DOES NOT SOLVE THIS PROBLEM.

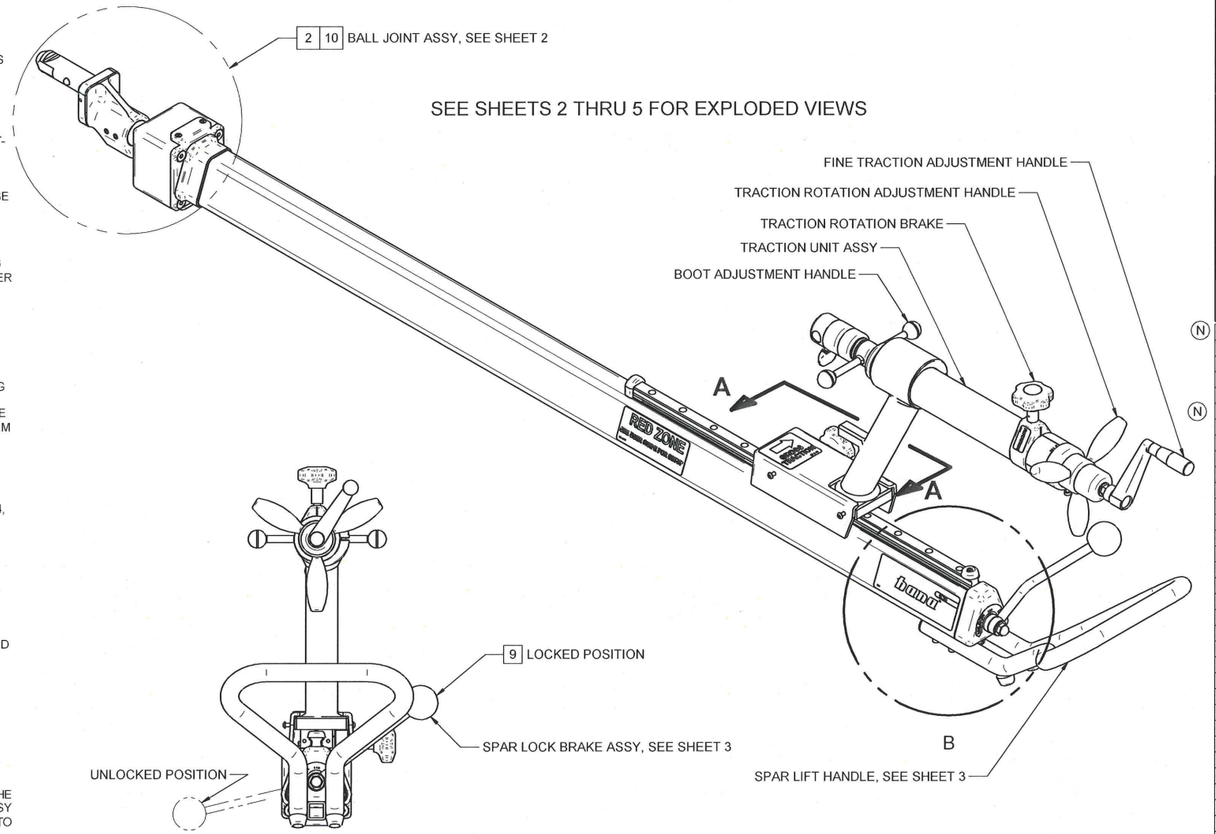
[11] THE SPAR LOCK HANDLE SHOULD BE AT APPROXIMATELY 2 O'CLOCK POSITION WHEN THE SPAR IS FULLY LOCKED. WHEN UNLOCKED THERE MAY STILL BE SOME DRAG ON THE BALL JOINT, THIS IS ACCEPTABLE.

GROSS TRACTION BRAKE ADJUSTMENT PROCEDURE:
PRIOR TO INSTALLING COVER, ITEM 18, SH 5, ADJUST GROSS TRACTION BRAKE AS FOLLOWS:

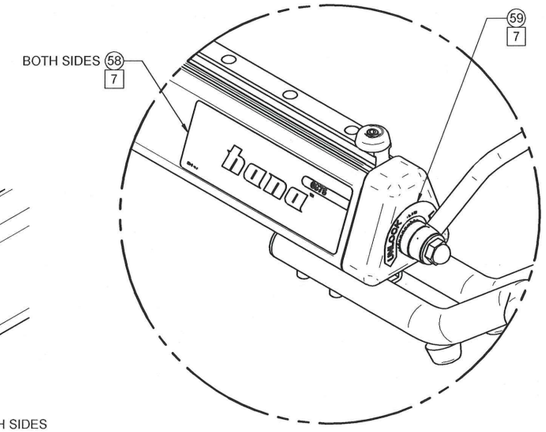
A. TURN BRAKE KNOB CCW TO THE END OF TRAVEL, THEN 180 DEGREES CW. ADJUST SET SCREWS, ITEM 37, CW UNTIL BRAKE IS LOCKED. TURN KNOB TO FULL UNLOCKED (CCW) AND SLIDE TRACTION MECHANISM. IF MOTION IS SMOOTH, THEN ADD LOCTITE TO LOCKING NUTS, ITEM 40 AND TIGHTEN NUT TO 45 IN-LBS. IF NOT SMOOTH MOTION THEN READJUST UNTIL SMOOTH MOTION WITH APPROX. 180 DEGREES OF KNOB ROTATION.

[12] APPLY 242 LOCTITE (BLUE) OR EQUIVALENT.

(P) [13] INDIVIDUAL PACKAGE AND LABEL PER MPI 130.

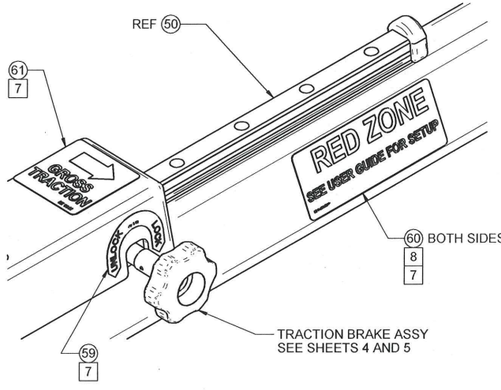


END VIEW



DETAIL B

SPAR BRAKE, RAIL AND LIFT ASSY SEE SHEET 3



VIEW A-A

REVISIONS					
REV	ZONE	DESCRIPTION	DATE	DWN	APP
J	B2	CHANGED ITEM 28 FROM 8-32 X .50 TO 8-32 X .37 (ECN 10115)	3/17/10	JH	RAG
K	VAR	REPLACED ITEM 24 WAS 6875-370 NEW PART ADDS DRAG TO FINE TRACTION TO PREVENT BACK DRIVE (ECN 10198)	9-1-2010	SH	SLH
L	SH 3	REMOVED 6875-338 & AAAW075AAC AND ADDED 6875-349, 6875-356, NB0338, AND AAAW150ACC (ECN 10356)	12/2/10	JH	JH
M	VAR	REMOVED ITEM 31 SCREW AAAT062AAC, REMOVED ITEM 44 WASHER AE018075AC, REMOVED ITEM 53 RUBBER BUMPER NB0353, ADDED ITEM 72 CARRIAGE STOP 6875-800, ADDED ITEM 73 SCREW AAAT050CA, INCREASED NUMBER OF ITEM 51 TO 12 WAS 11 (ECN 11077)	3/7/11	SH	SH
N	SH 3	CHANGED ITEM 69 FROM 1/4-20 X 1.50 BTN HD (AAAW150AAC) TO 1/4-20 X 1.75 CAP HD (AAW175CAC). REMOVED 6875-356 AND REPLACED IT WITH NB0378 (ECN 11193)	6/16/11	JH	JH
P	VAR	DELETED NOTE 10E. ADDED LABELING PROCEDURE MPI 130. IN SHEET 3, SPECIFIED GREASE TO ITEM 54. (ECN 100545)	3/12/13	FVC	AW

ITEM	PART No.	DESCRIPTION	QTY
(N) 74	NB0378	END PLUG FOR 1" TUBE	2
73	AAAT050CA	#10-32 UNF X .50 CAP HD SKT SCR BLK OXIDE	1
72	6875-800	CARRIAGE STOP, GROSS TRACTION	1
71	AC018050	3/16 DIA X .50 POP RIVET	2
70	NB0338	BUMPER, RECESSED, RUBBER P/M 9540K27	2
(N) 69	AAAW175CAC	1/4-20 UNC X 1.75 CAP HEAD SOCKET SCREW SS	4
67	6875-349	SPAR LIFT HANDLE	1
66	6875-365	RETAINING SCREW BALL RECEPTICAL	1
65	6875-320	BALL & CUP ASSY	1
64	AAAW050HA	1/4-20 UNC X .50 SOCKET SET SCREW ALLOY C/P.	2
63	AABB050HA	3/8-16 UNC X .50 SKT SET SCREW	1
61	NP1941	GROSS TRACTION LABEL, RIGHT	1
60	NP1921	LABEL, SPAR RED ZONE, 6875	2
59	NP1919	LABEL, LOCK & UNLOCK 6875	2
58	NP1909	LABEL, HANA 2" X 6" BLACK, 6875 SPARS	2
57	NL1185	5/16 CHROME STEEL BALL GR 25	2
56	NH0837	BALL KNOB, SCREW ON, 1-7/8 McMASTER 61095K56	1
55	NE0609	WAVE SPRING WASHER, STAINLESS STEEL	1
54	NE0601	COMP SPR, .612 ID,2.78 LG,.092 WIRE, CEN (11141)	1
52	NA0214	BUSHING-BRONZE-OILIMP-312x375x625	1
51	NA0212	PLUG, BLACK, THOMPSON PROFILE RAIL SERIES 20	12
50	NA0211	RAIL PROFILE THOMPSON BALL SERIES	1
49	NA0210	BALL CARRIAGE 500 SERIES SIZE 20 DURALLOY	1
48	MZA00005150	SCREW, CAP HEX SOCKET HD 5MM X 16MM GR 12.9	4
47	AM0371250C	.375 DIA X 1.250 DOWEL PIN	2
46	AM018100C	3/16 DIA. X 1.00 DOWEL PIN S.S.	1
45	AE037087A	3/8 X .87 FLAT WASHER	1
43	AE034068A	5/16 SAE FLAT WSHR .68 OD X .34 ID X .06	1
42	AE025050AC48	1/4 X .50 X .05 WASHER	1
41	ADBBFC	3/8-16 UNC ACORN NUT SST	1
40	ADAWAC	1/4-20 UNC HEX NUT STAINLESS STEEL	2
39	AAAW075FAC	5/16 DIA+0-.001 X 75 SKT SHOULDER SCR SS	1
37	AAAW050HAC	1/4-20 UNC X .50 SOCKET SET SCREW S.S.	1
36	AABB031HAAD	3/8-16 UNC X 5/16 SKT SET SCREW, ALLOY ZINC PL	2
35	AAAT200CAC	#10-32 UNF X 2.00 CAP HD SKT SCR S.S.	1
34	AAAT087CAA	#10-32 UNF X .87 CAP HD SOCKET SCR GRADE 8	10
33	AAAT075CAC	#10-32 UNF X .75 CAP HD SKT SCREW S.S.	3
32	AAAT075CAA	#10-32 UNF X .75 CAP HD SKT SCREW GRADE 8	1
30	AAAT050AAC	#10-32 UNF X .50 BN HD SKT SCREW S.S	3
29	AAAP075BAC	#8-32 X .75 SST FLHD SKT SCR	4
28	AAAP037BAC	#8-32 UNC X .37 SST FL HD SKT SCR	2
27	6875-380	BRAKE MOUNTING PLATE LEFT	1
26	6875-381	BRASS TIP	2
25	6875-376	BRAKE PAD	1
24	6875-2370	TRACTION UNIT ASSEMBLY	1
23	6875-358	BRACKET-GT BRAKE, LEFT	1
22	6875-355	KNOB W/ 3/8-16 STUD SWAGE	1
21	NB0352	BUMPER, RECESSED, RUBBER W/ WASHER	1
20	6875-353	SPACER, SPAR RAIL, .39 X .295	1
19	6875-351	SUPPORT, GUIDE RAIL- SPAR INNER	1
18	6875-364	COVER TRACTION BRAKE-LEFT	1
17	6875-340	HANDLE HEX WELDMENT	1
16	6875-339	SPAR END CAP	1
14	6875-306	SPAR GLUEMENT WITH ACME NUT (6875)	1
12	6875-302	BALL RECEPTICAL WELDMENT	1
11	6850-358	ACME SCR ASSY, SPAR BALL JOINT	1
10	6850-300	PIN, PRESSURE ARM	2
9	6850-275	SCREW, BALL JOINT TO SPAR ATTACH	4
8	6850-269	BRAKE CAP, BALL JOINT	2
7	6850-267	PRESSURE ARM	2
5	6850-263	GUIDE PIN, BALL JOINT	1
4	6850-262	BALL JOINT BOX	1
3	6850-252	LOCK HANDLE WELDMENT	1
2	6850-2030	CARBON TORQUE TUBE GLUEMENT	1
1	6850-148	GUIDE BUSHING	1

(P)	LABELING PROCEDURE	MPI 130
	ADDITIONAL SPECIFICATION OR DOCUMENTS REQUIRED:	YES

UNLESS OTHERWISE SPECIFIED:
REMOVE BURRS & SHARP EDGES. ALL DIMS IN INCHES INCLUDING CHEM. APPLIED & PLATED FINISHES. DO NOT SCALE DRAWING. INTERPRET DIM & TOL PER ASME Y14.5
MACH SURF. NA TOLERANCES .X= ±.030 .XX= ±.010 .XXX= ±.005 .XXXX= ±.0010 ANGLES ±1°
THIRD ANGLE PROJECTION

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APPROVALS		DATE
DRAWN BY: D.AGUIAR	INIT: DA	8-4-05
ENGR: S.HOEL	INIT: SH	8-5-05
APPR. BY: -	INIT: -	-
--- -	--- -	-
NEXT ASSY: 6875	ECN NO.: 05386	
SCALE: 2:1	SHEET 1 OF 5	

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MATERIAL: SEE PARTS LIST

TITLE: RADIOLUCENT LEG SPAR, LEFT

SIZE D | DWG NO.: 6875-360 | REV P

CAD FILE LOCATION: P:\6875\PENDING\6875-360 Rev P\6875-360 Rev P.dft

50505-03 REV C.dft

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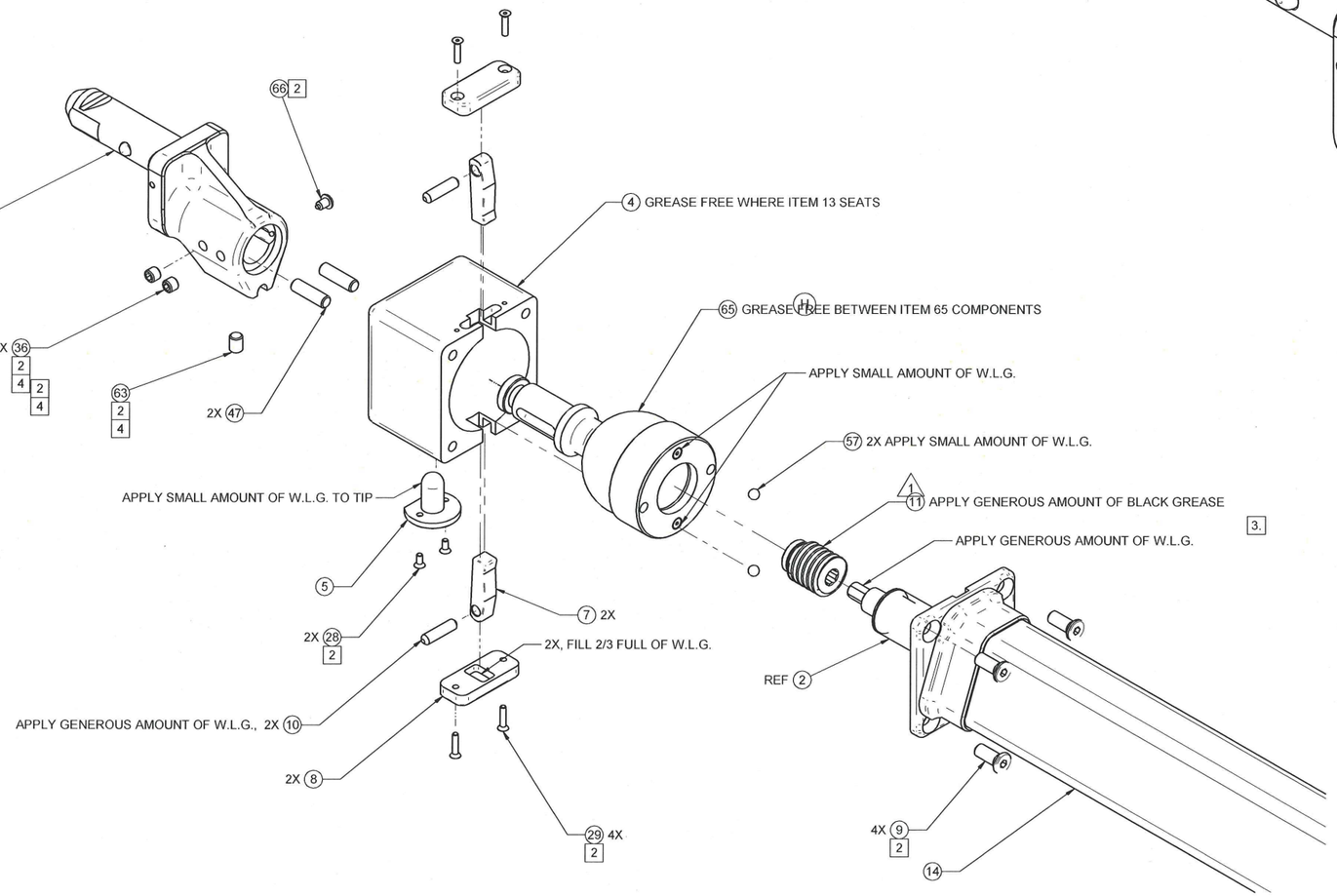
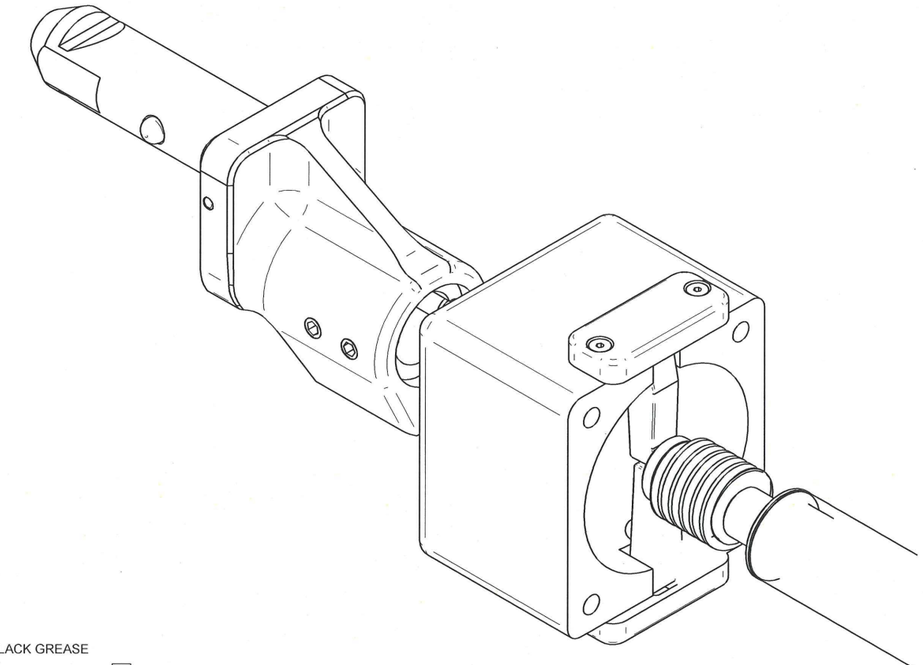
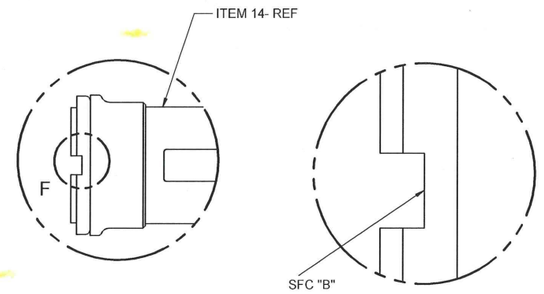


BALL JOINT ASSEMBLY



(ITEMS 9 AND 14 NOT SHOWN)



DETAIL F

ACME SCREW ASSY DETAIL- ITEM 11

1. USE TORQUE TUBE, ITEM 2, TO THREAD ACME SCREW ASSY, ITEM 11, INTO SPAR, ITEM 14.

2. PRIOR TO INSTALLING THE BALL JOINT ASSY TO THE SPAR, ITEM 14, BE SURE SFC "A" OF ITEM 11 IS FLUSH OR BELOW SURFACE "B"

APPLY SMALL AMOUNT OF WHITE LITHIUM GREASE

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SCALE:	SHEET OF	SIZE	DWG NO.:	REV
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50505-03 REV C.dft

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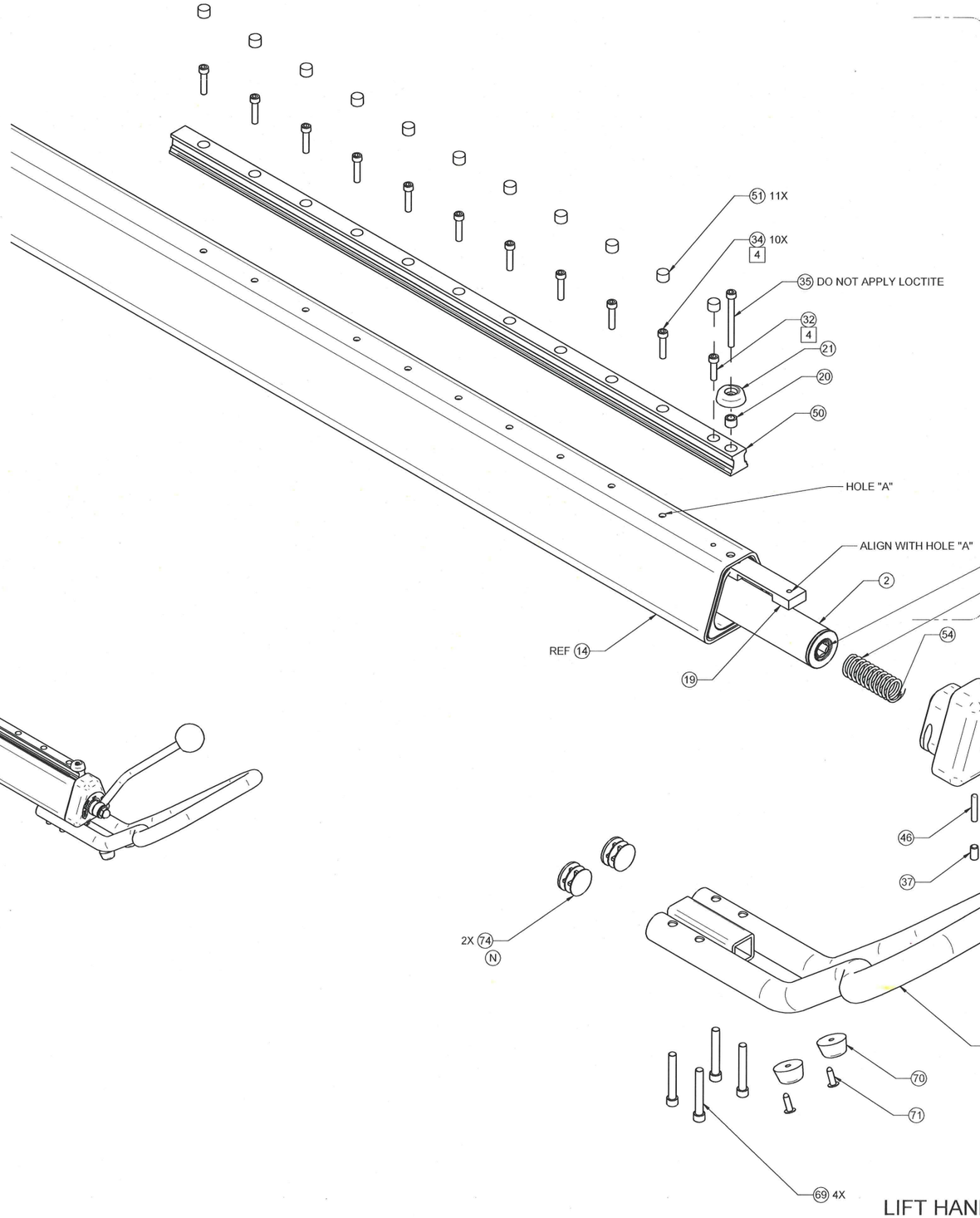
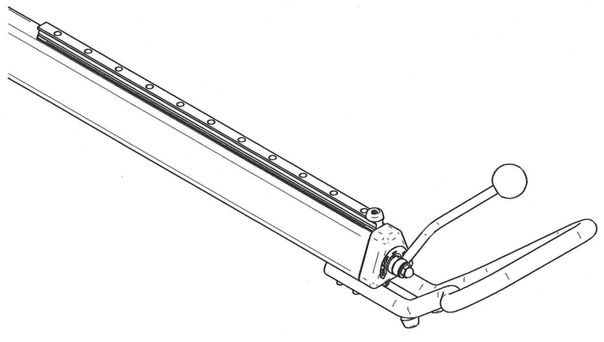


RAIL ASSY

(INSTALL PRIOR TO INSTALLING BRAKE AND LIFT HANDLE ASSY)



BRAKE HANDLE ASSY

(INSTALL AFTER RAIL ASSY AND PRIOR TO LIFT HANDLE ASSY)

LIFT HANDLE ASSY

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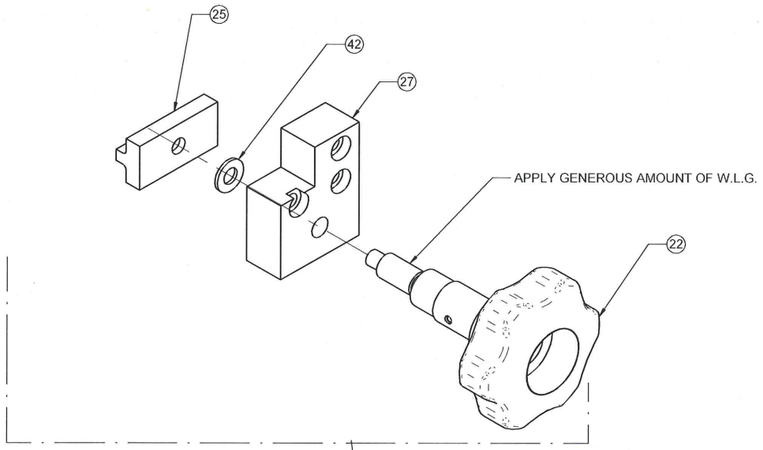
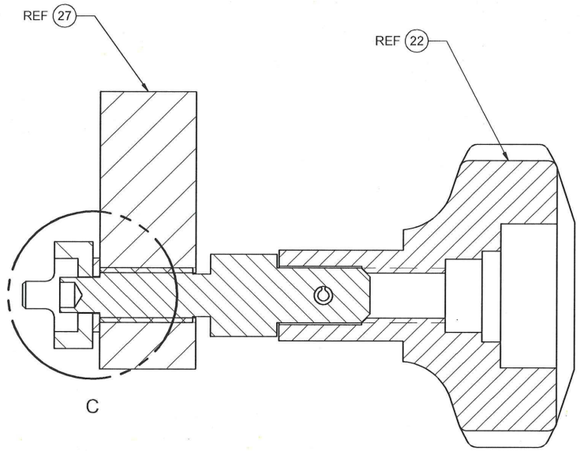
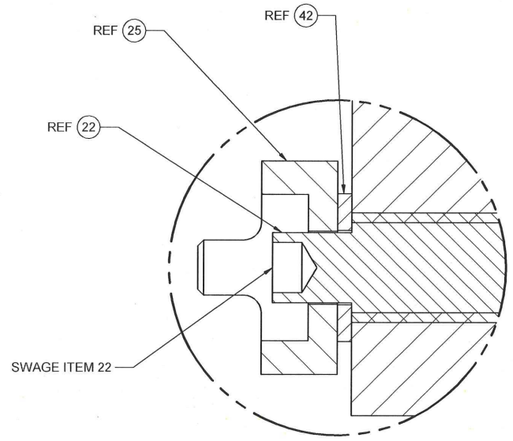
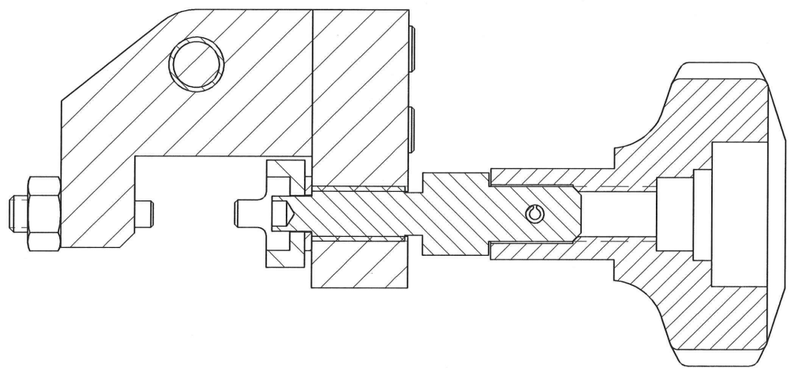






DETAIL C



TRACTION BRAKE ASSY

SEE BRAKE ADJ. DETAILS, SH 5 11

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SCALE:	SHEET	OF	SIZE	DWG NO.:	REV
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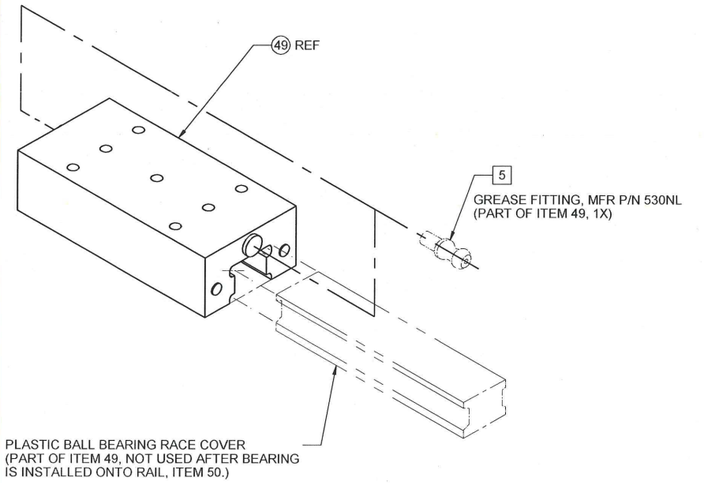
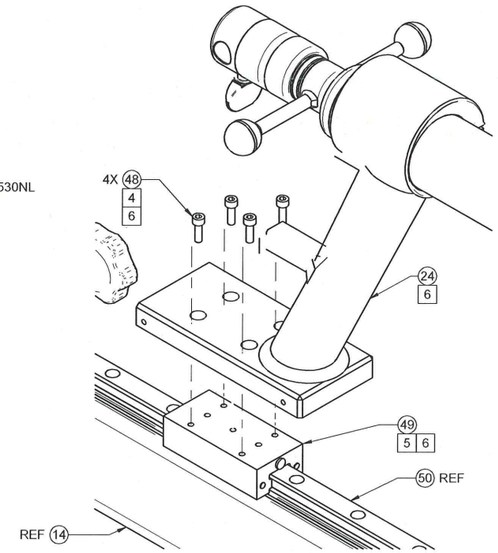
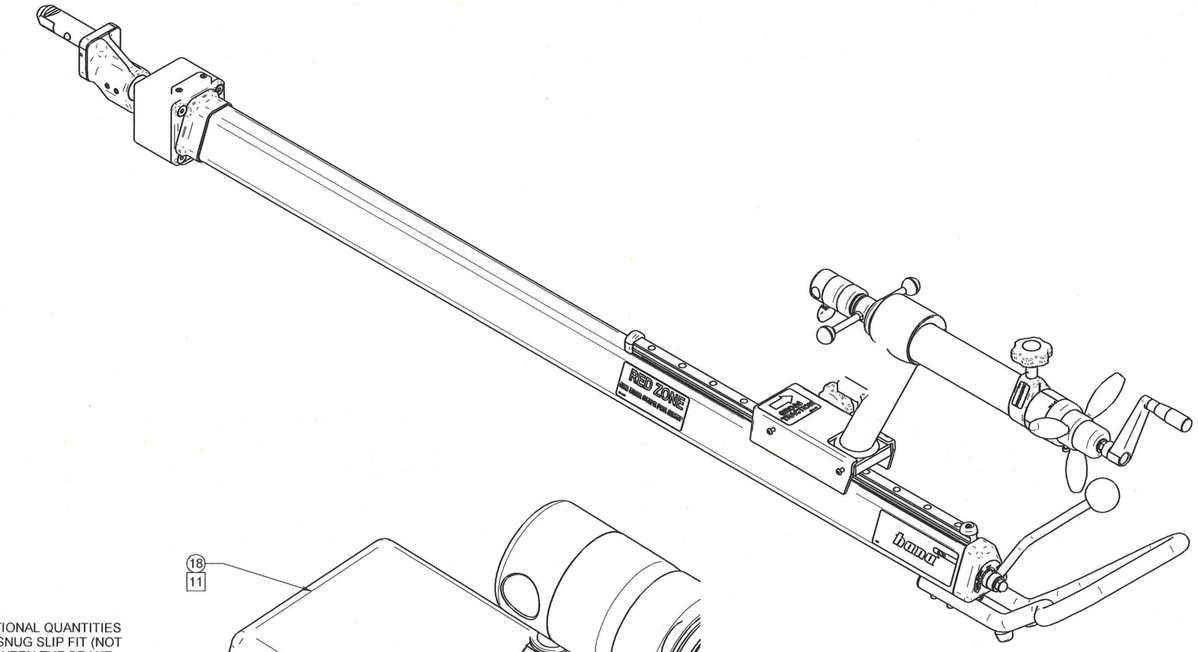

49 REF
5
GREASE FITTING, MFR P/N 530NL
(PART OF ITEM 49, 1X)
PLASTIC BALL BEARING RACE COVER
(PART OF ITEM 49, NOT USED AFTER BEARING
IS INSTALLED ONTO RAIL, ITEM 50.)

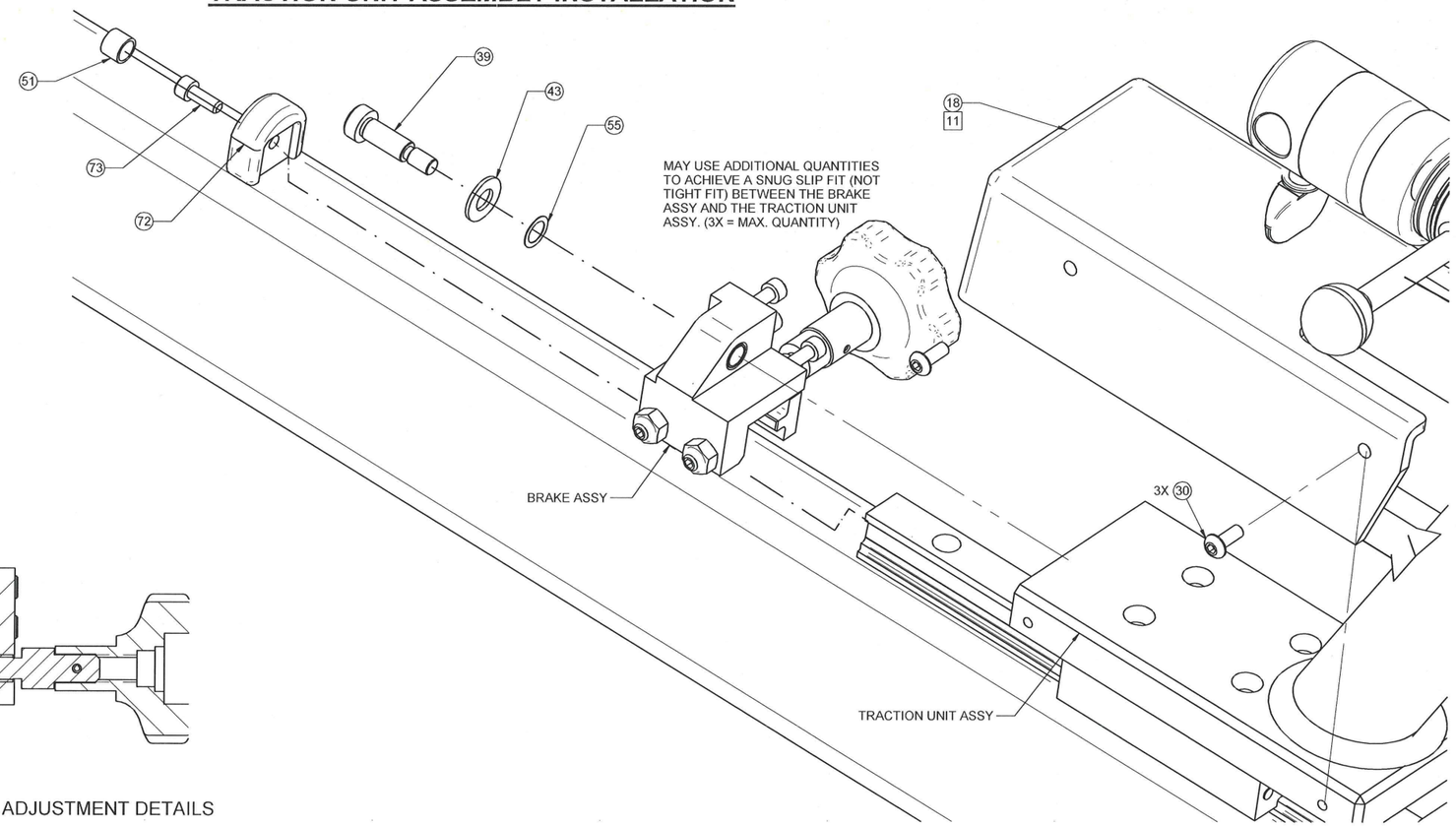
CARRIAGE BEARING LUBRICATION DETAILS

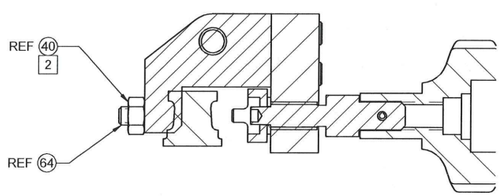
5



TRACTION UNIT ASSEMBLY INSTALLATION







GROSS TRACTION BRAKE ADJUSTMENT DETAILS

11

CAD FILE LOCATION: P:\6875\PENDING\6875-360 Rev P\6875-360 Rev P.dft

50505-03 REV C.dft

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SCALE:	SHEET OF	SIZE	DWG NO.:	REV
2:1	5 5	D	6875-360	P

8 7 6 5 4 3 2 1

D C B A